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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,327	02/13/2001	Hironao Hakogi	1614.1124	9065

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EXAMINER

PAK, SUNG H

ART UNIT PAPER NUMBER

2874

DATE MAILED: 01/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/781,327	HAKOGI ET AL.	
	Examiner	Art Unit	
	Sung H. Pak	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants' amendment filed 10/27/2003 has been entered. All pending claims have been carefully reconsidered in view of the amended limitations and the presented arguments, however the claims are still unpatentable. Please see Response to Arguments for further details.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mesaki et al (US 6,217,231 B1) in view of Enochs et al (US 4,818,056) as discussed in the previous office action.

Mesaki et al disclose an optical module comprising a ferrule having a slope end surface supporting an optical fiber penetrated therethrough (Figs. 23c, 23d); a photodetector mounted on the ferrule, and optically coupled directly with the optical fiber (Figs. 23c, 23d); a module substrate supporting the ferrule, and a resin package covering the ferrule so that an end of the ferrule protrudes from the resin package (Figs. 21, 22a); electronic parts mounted on the module substrate (Fig. 21); engagement protrusions extending along side surfaces of the resin package, to be engaged with an optical connector (Fig. 21).

While Mesaki et al teach the mounting of the photodetector on the ferrule surface, they do not teach the mounting of the photodetector on the end surface. On

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the other hand, Enochs et al teach mounting of the photodiode directly on the end surface of the ferrule (Fig. 3), where the photodiode is smaller than an area of the ferrule end surface. Enochs et al explicitly teach that such an arrangement is advantageous because it improves optical coupling between the optical device and the optical fiber (column 1 lines 5-45).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Mesaki et al device to have photodetector directly attached to the ferrule structure as taught by Enochs et al.

Response to Arguments

Independent claims 1, 6, 8-9:

The amendment adds a limitation, "said slope end surface being inclined with respect to an optical axis in said ferrule" to the independent claims 1 and 6. Newly added claims 8-9 include the limitation "said slope end surface being included with respect to an optical axis in the ferrule." The applicants argue that this newly added limitation further distinguishes the invention claimed in the instant application over the prior art. The examiner respectfully disagrees.

First, the examiner respectfully points out that the limitation "the slope end surface being inclined with respect to an optical axis in the ferrule" is already taught by the Mesaki et al reference (US 6,217,231 B1). Fig. 23B of Mesaki et al discloses a surface on the end of a ferrule ("41Ae-2e") that is sloped and inclined with respect to the optical axis in the ferrule. Also the end ferrule surfaces that is flush with the optical

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fiber, as shown in Fig. 23C and 23D are also sloped and inclined with respect to the optical axis in the ferrule.

Starting on page 4 of the applicants Remarks, it is argued that the claimed invention of the present application "facilitate a wire bonding process", and that "Enochs reference discloses mounting a photodetector on an end surface of a ferrule. However, the end surface of Enochs is perpendicular to the optical axis in the ferrule." Further, it is argued that it would be unobvious to use an inclined angle surface on the ferrule, a feature that would facilitate a wire bonding process.

The examiner respectfully points out that the claim rejection was based on 35 USC 103(a) as obvious over Mesaki et al reference in view of Enochs reference. As discussed in the office action, Mesaki et al reference discloses an optical device with all the limitations set forth in the claims, except it does not teach the optical device directly mounted on the surface flush with the optical fiber. However, this feature is known in the art, and therefore is not patentable. Enochs reference explicitly show an optical device directly coupled with the end ferrule surface which is flush with the optical fiber. Enochs reference teach that such a configuration is advantageous because it improves optical coupling between the optical device and the optical fiber. Therefore, it would have been obvious to a person of ordinary skill in the art to modify Mesaki et al's device in view of Enochs' device to improve optical coupling between the optical device and the optical fiber. Since there is a clear motivation to modify Mesaki et al's device in view of Enochs teaching, the claim rejection based on 35 USC 103(a) is valid.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (703) 308-4880. The examiner can normally be reached on Monday - Thursday : 6:30am-5:00pm.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Sung H. Pak
Examiner
Art Unit 2874

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Brian Healy
Primary Examiner